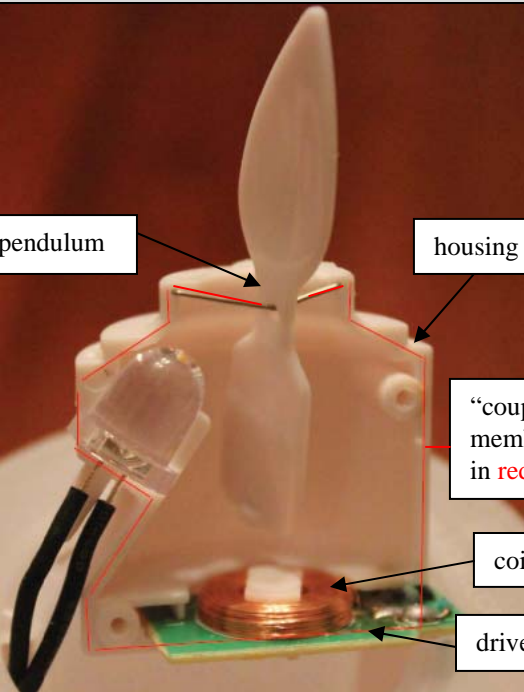


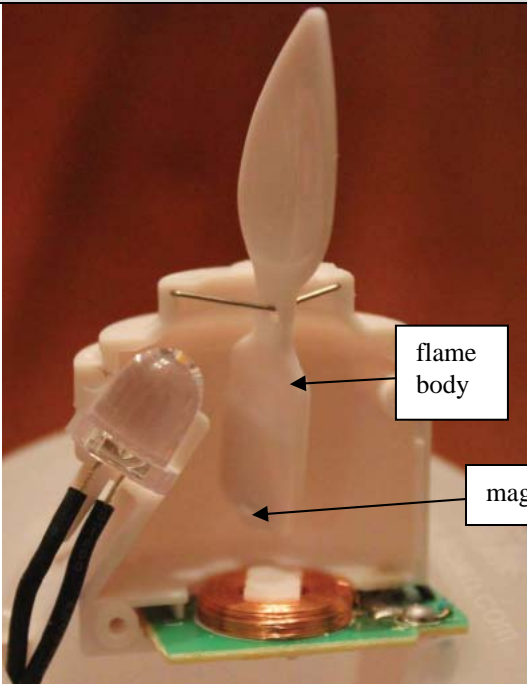
ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
<p>16. A flame simulator, comprising:</p>	<div> </div> <p>The Liown candle is a flame simulator. Packaging for the Forever Flame candle (shown above) describes the Liown candles as a “safe alternative to real candles.” Packaging for the Flameless LED Candle with Linalool Mosquito Repellent, 2-Pk states that it is a “flickering flame” “pillar candle.” Packaging for the Flameless Pillar candle describes it as a “Flicker Flames flameless candle.”</p>

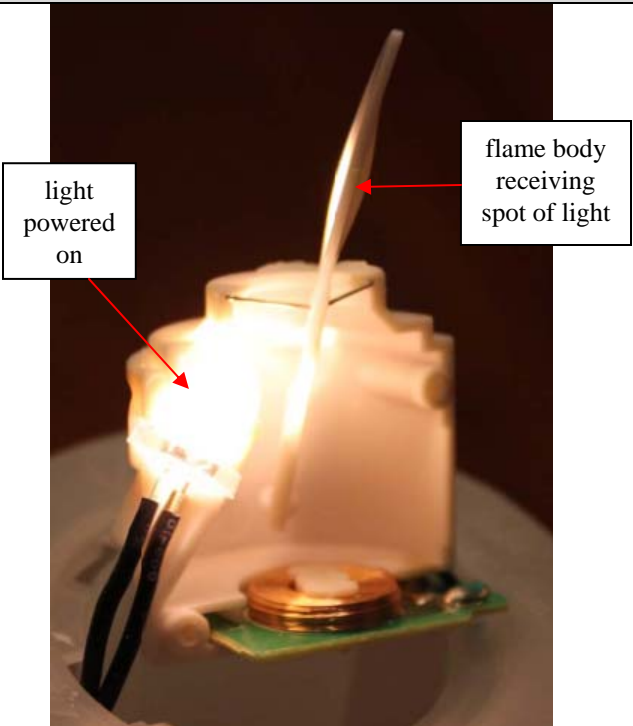
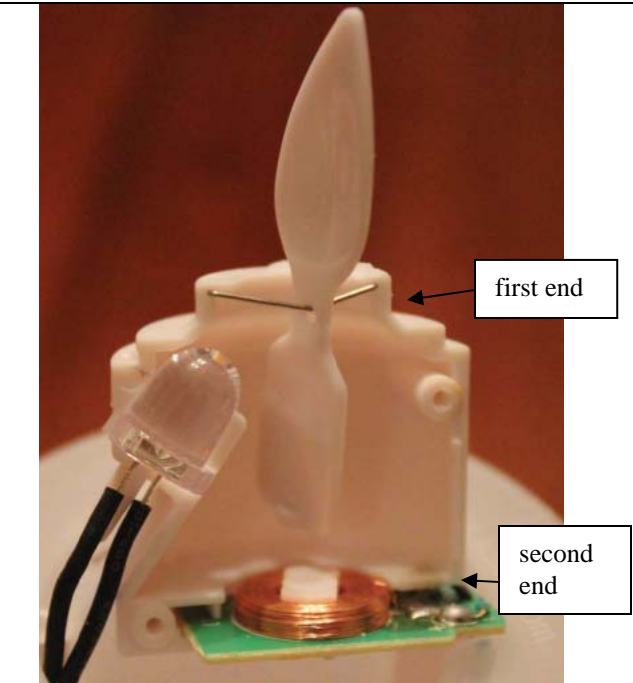
ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
<p>[16.2 Continued] an electrically driven motion engine including a coupling member, wherein the motion engine generates chaotic motion at the coupling member in at least two dimensions;</p>	<div>  </div> <p>The electronic drive, housing and pendulum, together constitute a “motion engine.” The structure of the housing and support, together constitute a “coupling member.” The red line (above) identifies the combined structure of the coupling member. The interaction of the magnetic field generated by the coil and a magnet on the end of the pendulum creates “chaotic motion” at the coupling member because the housing and support are used to allow for interaction between the time-varying electromagnetic field and the movable flame body. The chaotic motion of the pendulum moves in at least two directions.</p>

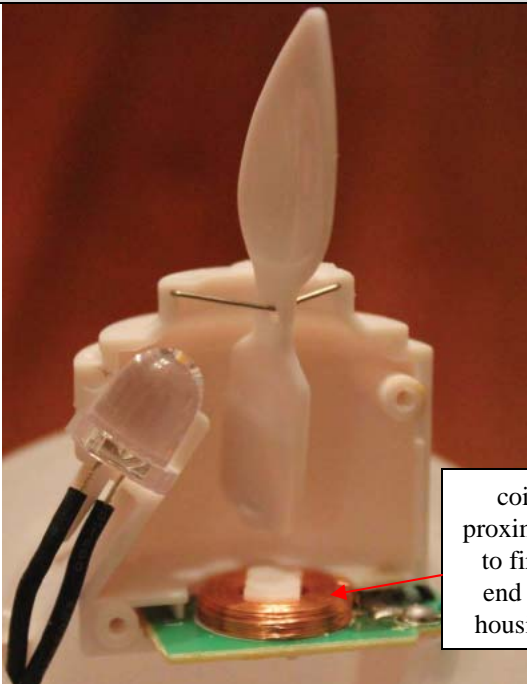
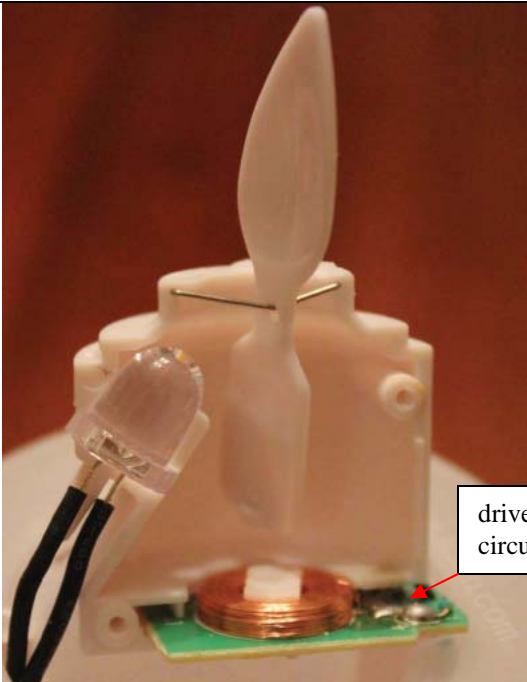
ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
<p>[16.3 Continued] a movable flame body magnetically coupled to the coupling member such that the chaotic motion of the coupling member is transferred to the movable flame body, and</p>	 <p>The pendulum constitutes a “flame body.” The lower portion of the pendulum contains a magnet. When the candle is powered on, the flame body is “magnetically coupled” to the coupling member by interaction between the magnetic field generated from the coil and the magnet attached to the lower portion of the flame body. Thereby, the movable flame body is magnetically coupled to the coupling member such that the chaotic motion created by the coupling member is transfer to the flame body.</p>

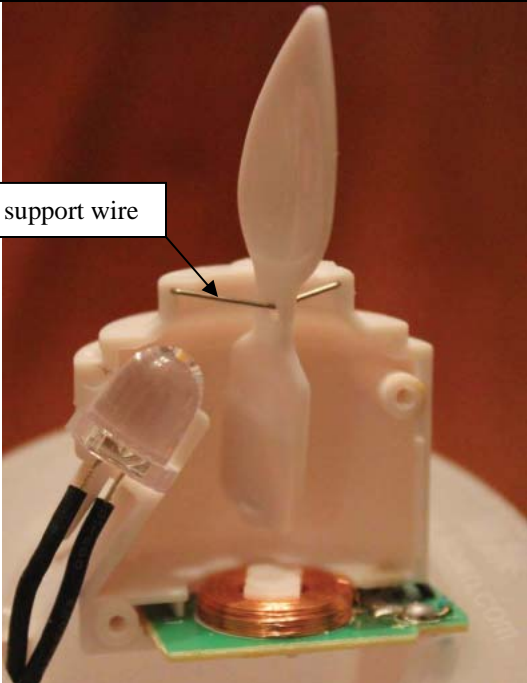
ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
<p>[16.4 Continued] a light projector emitting a spot of light towards the flame body, wherein the motion engine further comprises:</p>	 <p>When powered on, a spot of light is projected towards the flame body.</p>
<p>[16.5 Continued] a hollow housing a sidewall defining a first end and a second end</p>	 <p>The housing is hollow with a sidewall defining first and second ends.</p>

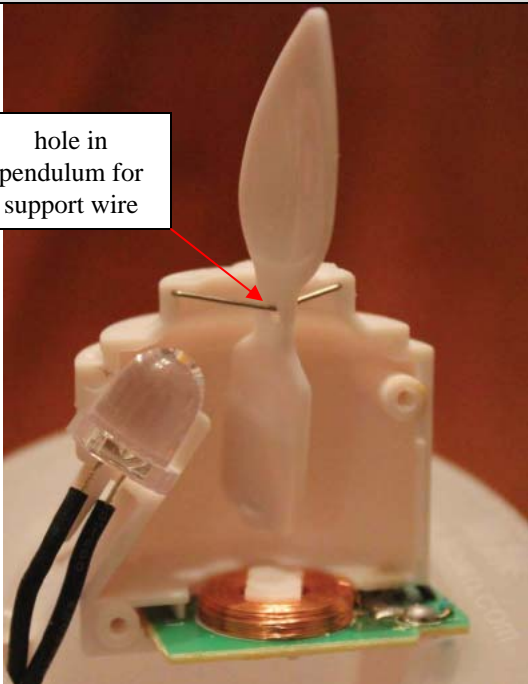
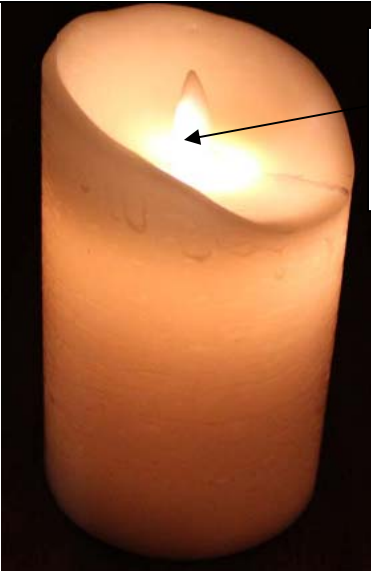
ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
<p>[16.6 Continued] an electromagnetic coil proximate to the first end of the housing</p>	 <p>coil proximate to first end of housing</p> <p>The coil is located proximate to the first end of the housing.</p>
<p>[16.7 Continued] a drive circuit coupled to the coil and providing a signal to the drive coil to produce a time-varying magnetic field in a vicinity of the drive coil;</p>	 <p>drive circuit</p> <p>The drive circuit is coupled to the coil and provides a signal to the coil. By alternating voltage, the coil produces a time-varying</p>

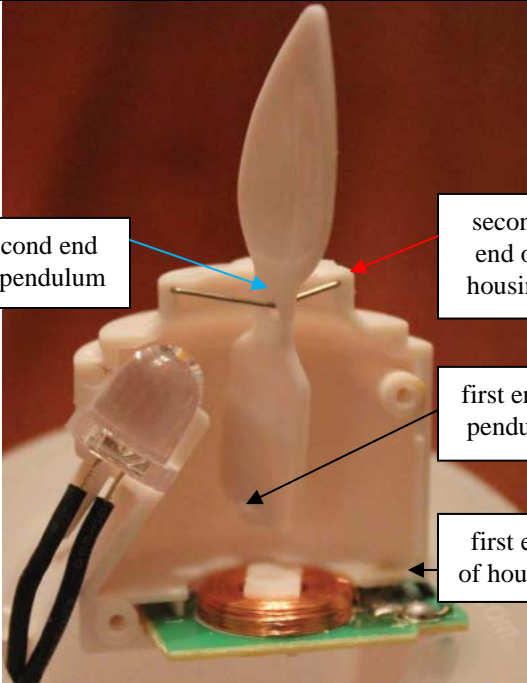
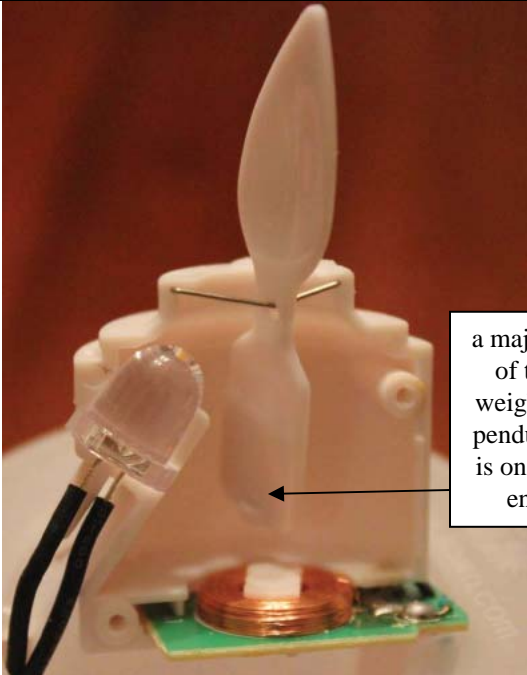
ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
	magnetic field in the vicinity of the coil
<p>[16.8 Continued] a support wire spanning across the housing and affixed to the housing sidewall wherein the support wire is V-shaped so that a vertex of the support wire is near a midpoint of the housing, wherein the support wire is located at a position along the sidewall that is closer to the second end than to the first end; and</p>	<div>  </div> <p>A V-shaped support wire affixed to each side of the housing spans the opening on the housing closer to the top or second end, than the first end or bottom. The vertex of the support wire is near the midpoint of the housing.</p>

ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
<p>[16.9 Continued] a pendulum having a hole, wherein the support wire passes through the hole allowing the pendulum to pivot about the hole on the support wire.</p>	 <p>hole in pendulum for support wire</p> <p>The V-shaped wire passes through a hole in the pendulum. In operation, the pendulum pivots on the V-shaped wire.</p>
<p>17. The flame simulator of claim 16, wherein the flame body has a visible surface for receiving the spot of light and wherein the flame body and the light source are arranged such that light emitted from the light source is reflected from the visible surface of the flame body towards a viewer.</p>	 <p>visible surface of flame body</p> <p>The flame body, or top portion of the pendulum, extends from the housing such that that the surface of the flame body is visible from the outside of the candle. A light is positioned within the housing such that a spot of light is directed</p>

ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
	toward the visible surface of the flame body.
<p>18. The flame simulator of claim 16, wherein the signal is a square wave signal or a sine wave signal and wherein the pendulum has a first end proximate to the first end of the housing and a second end proximate to the second end of the housing, wherein the pendulum is supported in the housing such that the first and second ends are contained within the housing</p>	 <p>An oscilloscope was attached to the coil and voltage wave was measured. The measurement was a square signal.</p>
<p>19. The flame simulator of claim 18, wherein the pendulum is balanced on the support wire with more than about half of its mass on the first-end side of the hole.</p>	 <p>a majority of the weight of pendulum is on first end</p>

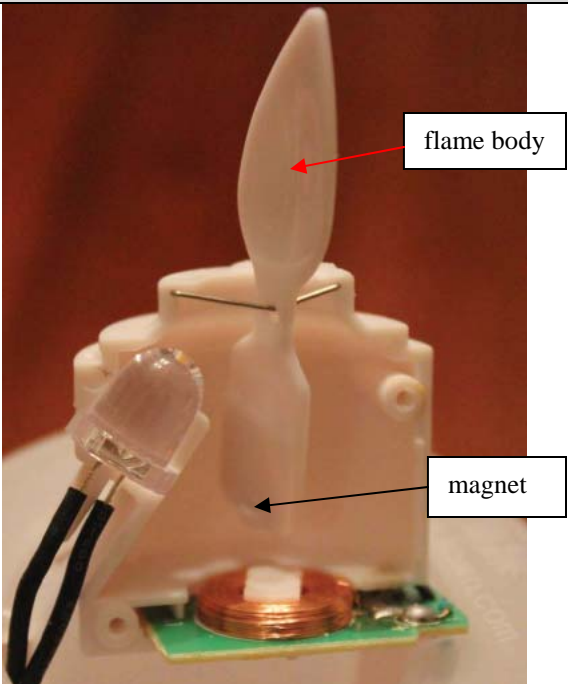
ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
	The lower portion of the pendulum, which is the first-end side of the housing, is heavier than the top portion, and balances the pendulum.
22. A flame simulator, comprising:	<div> </div> <p>The Liown candle is a flame simulator. Packaging for the Forever Flame candle (show above) describes the Liown candles as a “safe alternative to real candles.” Packaging for the Flameless LED Candle with Linalool Mosquito Repellent, 2-Pk states that the Liown candle is a “flickering flame” “pillar candle.” Packaging for the Flameless Pillar describes the Liown candle as a “Flicker Flames flameless candle.”</p>

ATTACHMENT A**U.S. Patent No. 7,837,355**

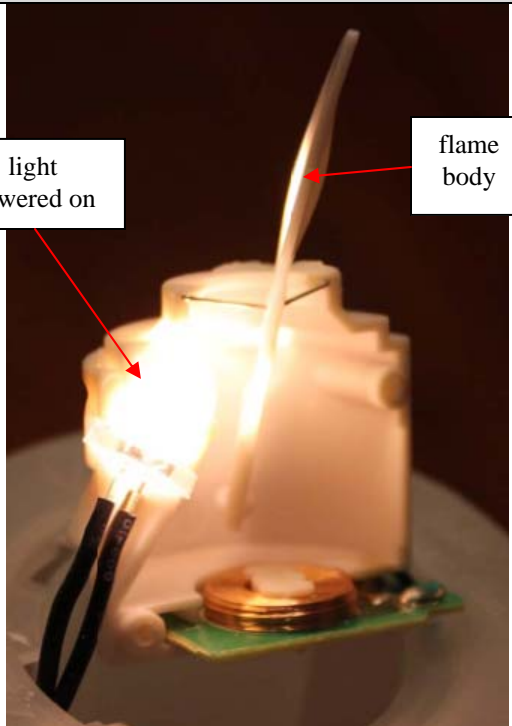
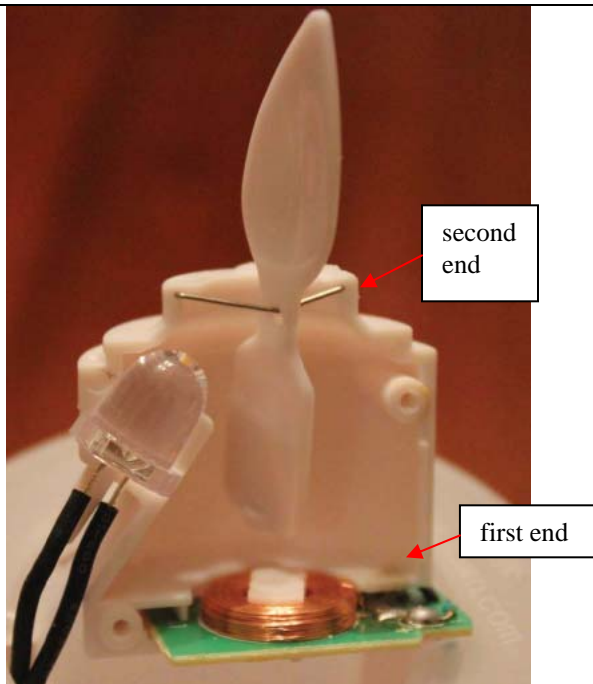
Claim	Liown Candle
<p>[22.2 Continued] an electrically driven motion engine including a coupling member, wherein the motion engine generates chaotic motion at the coupling member in at least two dimensions;</p>	<div> </div> <p>The electronic drive, housing and pendulum, together constitute a “motion engine.” The structure of the housing and support together constitute a “coupling member.” The red line identifies the combined structure of the coupling member. The interaction of the magnetic field generated by the coil and a magnet on the end of the pendulum creates “chaotic motion” at the coupling member because the housing and support are used to allow for interaction between the time-varying electromagnetic field and the movable flame body. The chaotic motion of the pendulum moves in at least two directions.</p>

ATTACHMENT A**U.S. Patent No. 7,837,355**

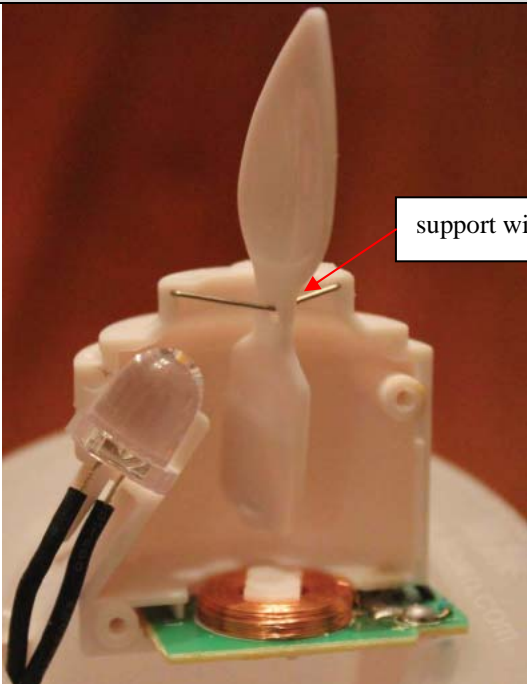
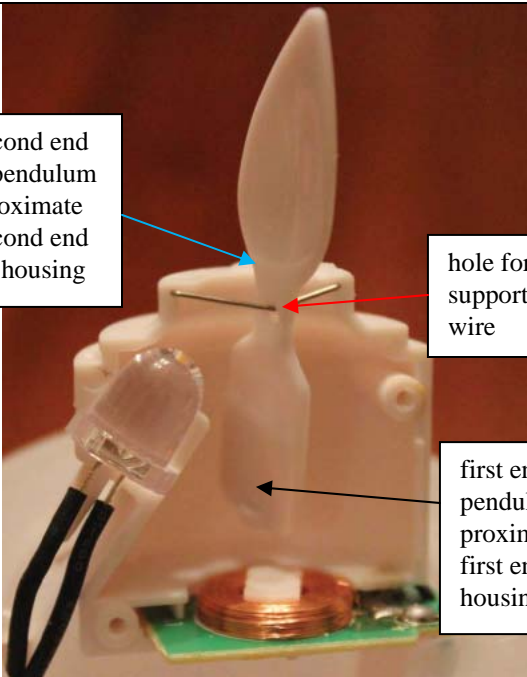
Claim	Liown Candle
<p>[22.3 Continued] a movable flame body magnetically coupled to the coupling member such that the chaotic motion of the coupling member is transferred to the movable flame body;</p>	<div>  </div> <p>The flame silhouette and pendulum member constitute a “flame body.” The lower portion of the pendulum contains a magnetic. When the candle is powered on, the flame body is “magnetically coupled” to the coupling member (identified above in 22.2) by interaction between the magnetic field generated from the coil and the magnet attached to the lower portion of the flame body. Thereby, the movable flame body is magnetically coupled to the coupling member such that the chaotic motion of the coupling member is transfer the flame body.</p>

ATTACHMENT A

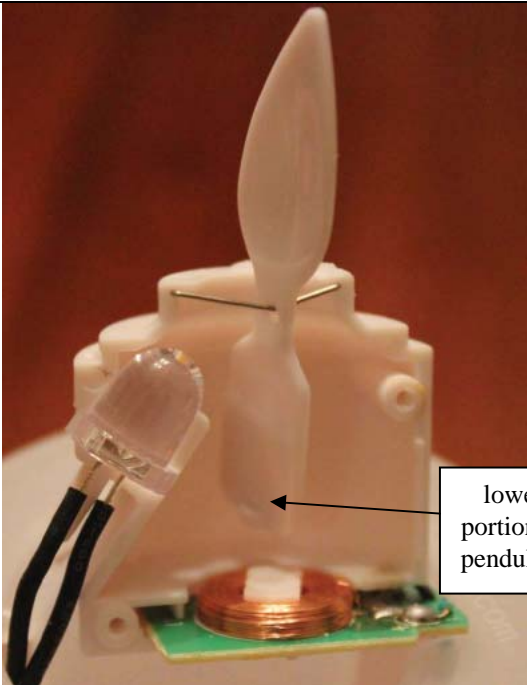
U.S. Patent No. 7,837,355

Claim	Liown Candle
<p>[22.4 Continued] a light projector emitting a spot of light towards the flame body;</p>	 <p>When powered on, the LED projects a spot of light towards the flame body.</p>
<p>[22.5 Continued] a hollow housing having a sidewall defining a first end and a second end; and</p>	 <p>The housing is hollow with a sidewall defining first and second ends.</p>

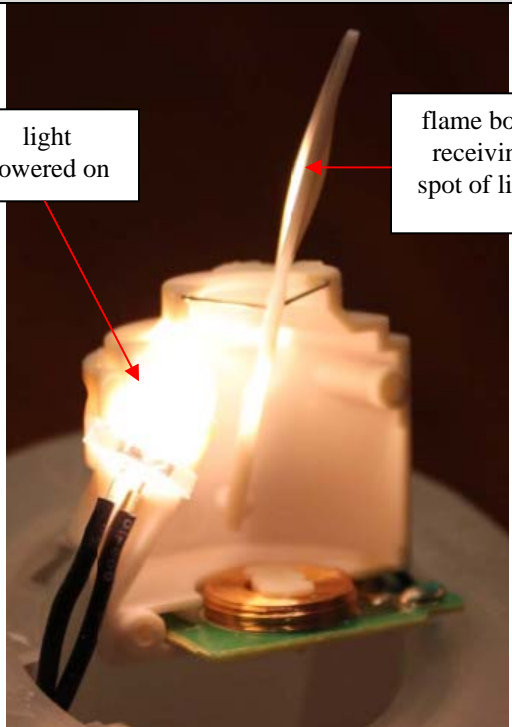
ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
<p>[22.6 Continued] a flame support wire spanning across the housing and affixed to the housing sidewall wherein the support wire is V-shaped so that a vertex of the support wire is near a midpoint of the housing, wherein the support wire is located at a position along the sidewall that is closer to the second end than to the first end,</p>	 <p>A V-shaped support wire affixed to each side of the housing spans the opening on the housing closer to the top or second end, than the first end or bottom. The vertex of the support wire is near the midpoint of the housing.</p>
<p>[22.7 Continued] wherein the flame body comprises a pendulum having a hole, wherein the flame support wire passes through the hole allowing the pendulum to pivot about the hole on the flame support wire, the pendulum having a first end proximate to the first end of the housing and a second end proximate to the second end of the housing.</p>	 <p>second end of pendulum proximate second end of housing</p> <p>hole for support wire</p> <p>first end of pendulum proximate first end of housing</p>


ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
	<p>The V-shaped wire passes through a hole in the pendulum. In operation, the pendulum pivots on the V-shaped wire.</p>
<p>23. The flame simulator of claim 22, wherein the pendulum is balanced so that more than half of its mass is on the first-end side of the hole.</p>	<div>  </div> <p>The lower portion of the pendulum, which is the first-end side of the housing, is heavier than the top portion, and balances the pendulum.</p>

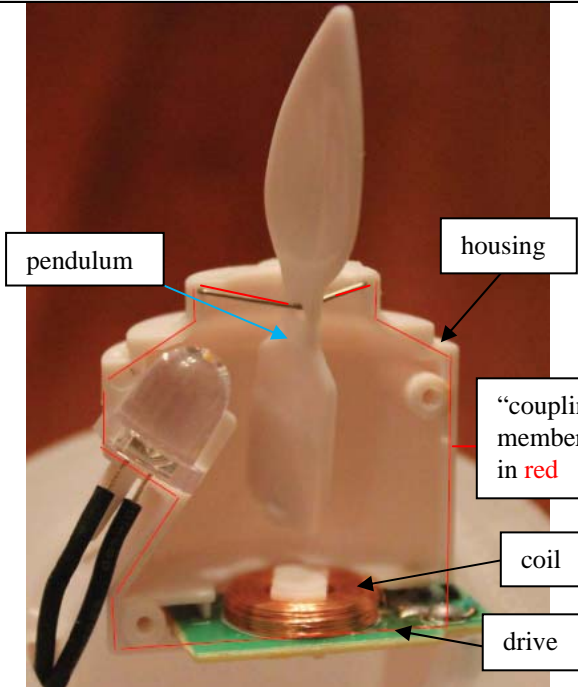
ATTACHMENT A**U.S. Patent No. 7,837,355**

Claim	Liown Candle
<p>26. The flame simulator of claim 16, wherein the light projector is positioned to emit light upward onto the flame body</p>	<div>  </div> <p>When powered on, a light projects a spot of light upward towards the flame body.</p>
<p>27. The flame simulator of claim 16, wherein the light projector comprises a single-color light emitting diode spot light.</p>	<p>The light is a single-color LED.</p>

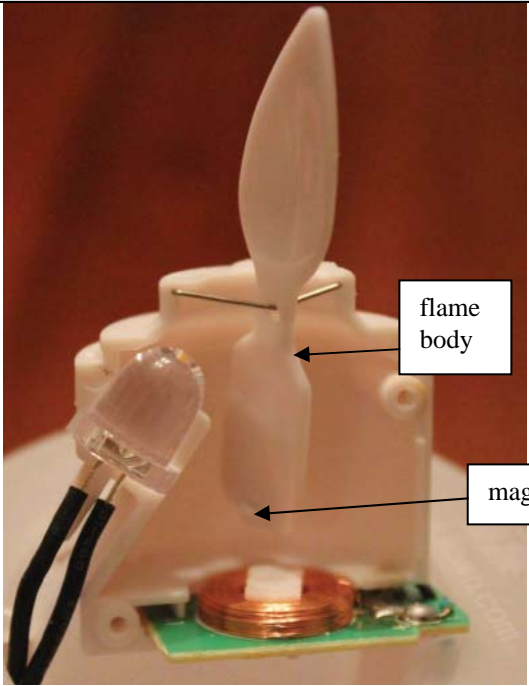
ATTACHMENT B**U.S. Patent No. 8,070,319**

Claim	Liown Candle
<p>17. A flame simulator, comprising:</p>	<div>  </div> <p>The Liown candle is a flame simulator. Packaging for the Forever Flame candle (shown above) describes the Liown candles as a “safe alternative to real candles.” Packaging for the Flameless LED Candle with Linalool Mosquito Repellent, 2-Pk states that it is a “flickering flame” “pillar candle.” Packaging for the Flameless Pillar candle describes it as a “Flicker Flames flameless candle.”</p>

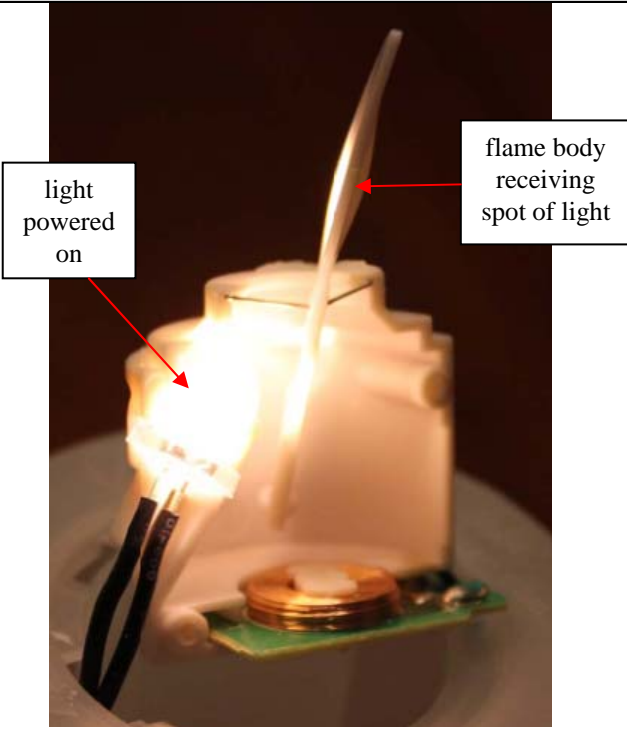
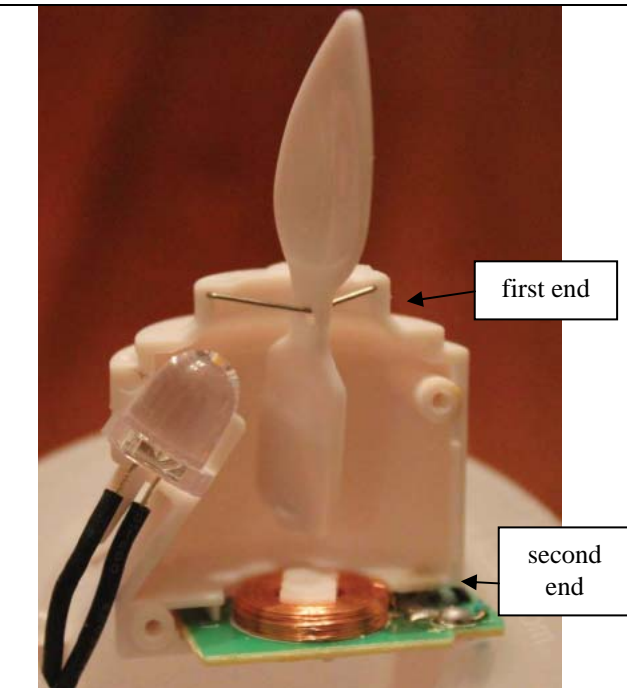
ATTACHMENT B**U.S. Patent No. 8,070,319**

Claim	Liown Candle
<p>[17.2 Continued] an electrically driven motion engine including a coupling member, wherein the motion engine generates chaotic motion at the coupling member in at least two dimensions;</p>	 <p>The electronic drive, housing and pendulum, together constitute a “motion engine.” The structure of the housing and support, together constitute a “coupling member.” The red line (above) identifies the combined structure of the coupling member. The interaction of the magnetic field generated by the coil and a magnet on the end of the pendulum creates “chaotic motion” at the coupling member because the housing and support are used to allow for interaction between the time-varying magnetic electromagnetic field and the movable flame body. The chaotic motion of the pendulum moves in at least two directions.</p>

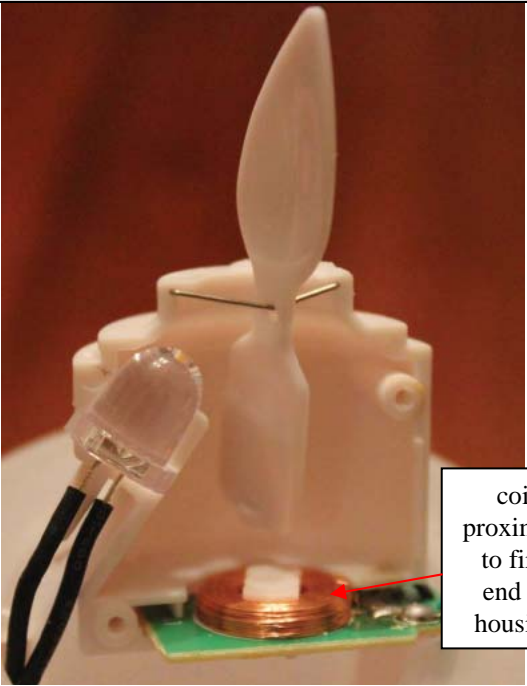
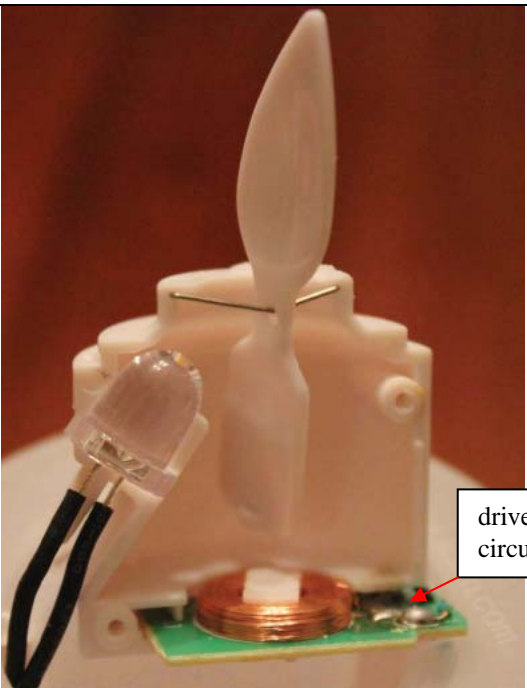
ATTACHMENT B**U.S. Patent No. 8,070,319**

Claim	Liown Candle
<p>[17.3 Continued] a movable flame body magnetically coupled to the coupling member such that the chaotic motion of the coupling member is transferred to the movable flame body;</p>	 <p>The pendulum constitutes a “flame body.” The lower portion of the pendulum contains a magnet. When the candle is powered on, the flame body is “magnetically coupled” to the coupling member by interaction between the magnetic field generated from the coil and the magnet attached to the lower portion of the flame body. Thereby, the movable flame body is magnetically coupled to the coupling member such that the chaotic motion created by the coupling member is transfer to the flame body.</p>

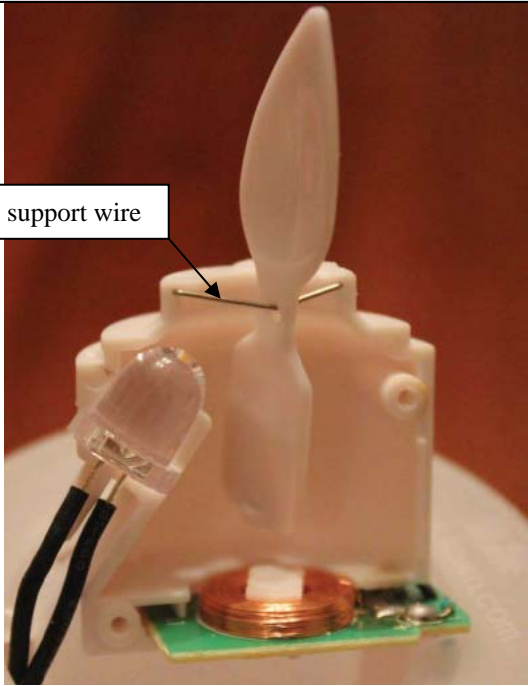
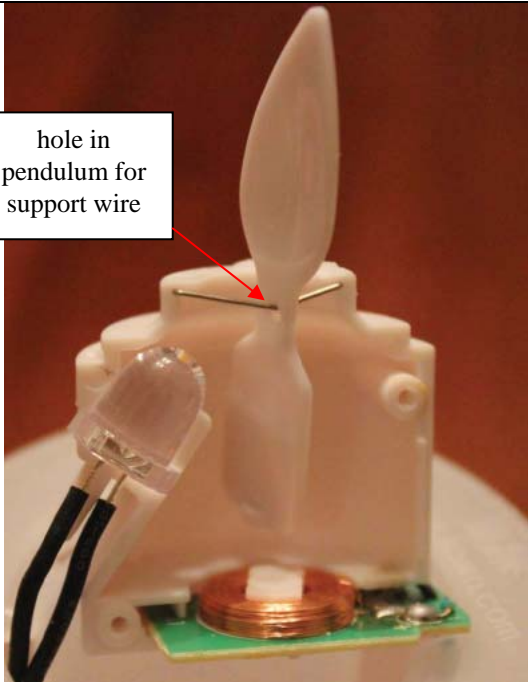
ATTACHMENT B**U.S. Patent No. 8,070,319**

Claim	Liown Candle
<p>[17.4 Continued] and a light projector emitting a spot of light towards the flame body, wherein the motion engine further comprises:</p>	 <p>When powered on, a spot of light is projected towards the flame body.</p>
<p>[17.5 Continued] a hollow housing having a sidewall defining a first end and a second end;</p>	 <p>The housing is hollow with a sidewall defining first and second ends.</p>

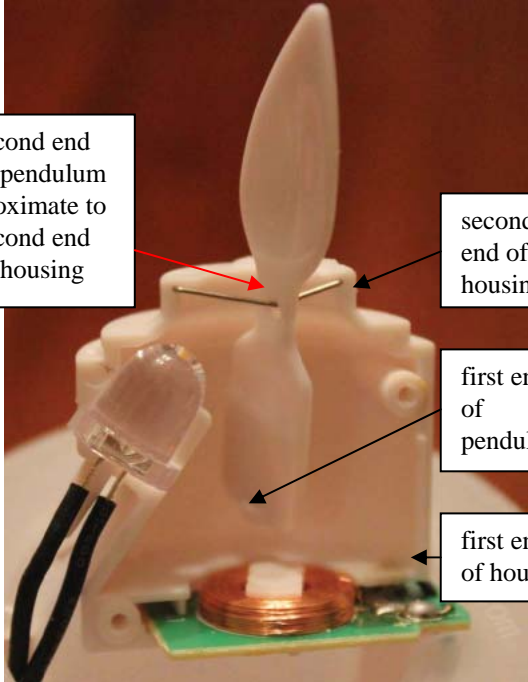
ATTACHMENT B**U.S. Patent No. 8,070,319**

Claim	Liown Candle
<p>[17.6 Continued] an electromagnetic coil proximate to the first end of the housing;</p>	 <p>coil proximate to first end of housing</p> <p>The coil is located proximate to the first end of the housing.</p>
<p>[17.7 Continued] a drive circuit coupled to the coil and providing a signal to the drive coil to produce a time-varying magnetic field in a vicinity of the drive coil;</p>	 <p>drive circuit</p> <p>The drive circuit is coupled to the coil and provides a signal to the coil. By alternating voltage, the coil produces a time-varying magnetic field in the vicinity of the coil</p>

ATTACHMENT B**U.S. Patent No. 8,070,319**

Claim	Liown Candle
<p>[17.8 Continued] a support wire spanning across the housing and affixed to the housing sidewall, wherein the support wire is located at a position along the sidewall that is closer to the second end than to the first end;</p>	 <p>A V-shaped support wire affixed to each side of the housing spans the opening on the housing closer to the top or second end, than the first end or bottom. The vertex of the support wire is near the midpoint of the housing.</p>
<p>[17.9 Continued] and a pendulum having a hole, wherein the support wire passes through the hole allowing the pendulum to pivot about the hole on the support wire.</p>	 <p>The V-shaped wire passes through a hole in the pendulum. In operation, the pendulum pivots on</p>

ATTACHMENT B**U.S. Patent No. 8,070,319**

Claim	Liown Candle
	the V-shaped wire.
<p>18. The flame simulator of claim 17, wherein the signal is a square wave signal or a sine wave signal and wherein the pendulum has a first end proximate to the first end of the housing and a second end proximate to the second end of the housing, wherein the pendulum is supported in the housing such that the first and second ends are contained within the housing.</p>	 <p>An oscilloscope was attached to the coil and voltage wave was measured. The measurement was a square signal. The pendulum has a first end proximate to the first end of the housing and a second end proximate to the second end of the housing, wherein the pendulum is supported in the housing such that the first and second ends are contained within the housing.</p>